

CLAIMS

1. A method of operating a communication system comprising a first station (BS) and a second station (MS), the first and second stations each having transceiving means (12, 38), the second station transmitting a first signal (DPCCH) to the first station, the power of the transmitted first signal not exceeding a predetermined maximum level (P_{max}), wherein in response to the second station wishing to transmit any one of a set of possible additional signals, the transmit power of the first signal is scaled by an amount which takes into account the greater (or greatest) power requirement of all of the set of the possible additional signals to be transmitted subsequently.

2. A method as claimed in claim 1, characterised in that the set of the possible additional signals comprise a positive acknowledgement signal (ACK) and a negative acknowledgement signal (NACK), in that one of the ACK and NACK is transmitted at a mutually different power level than the other, and in that the scaling in the transmitted power of the first signal assumes that the higher power one of the ACK or NACK is to be transmitted.

3. A method as claimed in claim 1 or 2, wherein the first signal is transmitted in first frames or time slots and the additional signals are transmitted in second frames or time slots, wherein the boundaries between the first frames or time slots are not coincident with the boundaries between the second frames or time slots, characterised in that the transmit power of the first signal is scaled at the frame or time slot boundary immediately preceding the transmission of the additional signal.

4. A method as claimed in claim 1, characterised by the second station transmitting the first signals substantially continuously in successive first frames or time slots, by the first station transmitting to the second station a data packet requiring a response consisting of at least a selected one of the set of possible additional signals, in that the first station requires the response

to be transmitted in a second frame or time slot whose boundaries are different from the boundaries of the first frames or time slots, and in that the power level of at least the first signal is scaled at the boundary of the first frame or time slot immediately preceding the occurrence of the second time slot.

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5. A method as claimed in any one of claims 1 to 4, characterised in that the second station determines if the combined power requirement of the first signal and all of the set of possible additional signals exceeds the predetermined maximum level, and, if so, it scales the power requirement of
10 the first signal.

6. A method as claimed in any one of claims 1 to 5, characterised in that the scaling results in a power reduction.

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7. A method as claimed in any one of claims 1 to 5, characterised in that in response to the scaling occurring coincidentally with a requirement to increase the power of the first signal, the scaling results in a smaller increase than the requirement.

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8. A method as claimed in claim 7, characterised in that the requirement to increase power is due to a regular power control process.

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9. A method as claimed in claim 8, characterised in that the regular power control process is a closed loop process and in that the second station receives commands to change power from the first station.

10. A method as claimed in claim 7 or 8, characterised in that the requirement to increase power is due at least in part to a change in parameters or in format of a data signal transmitted from the second station.

11. A method as claimed in any one of claims 1 to 10, characterised in that the first signal and the possible additional signals are transmitted as spread spectrum signals.

5 12. A communication system comprising a first station (BS) and a second station (MS), the first station and second stations having transceiving means (12, 38), the second station having power control means (34) for controlling the transmitted power level of a first signal (DPCCH) to be transmitted to the first station, wherein the power control means is adapted, in
10 response to determining that the second station wishes to transmit any one of a set of possible additional signals simultaneously with the first signals, to scale the transmit power of the first signal by an amount which takes into account the greater (or greatest) power requirement of all of the set of the possible additional signals to be transmitted subsequently.

15 13. A system as claimed in claim 12, characterised by the second station having power scaling means (36) which is adapted, in response to the power control means determining that the combined power requirement of the first signal and the set of possible additional signals exceeding the
20 predetermined maximum level, to scale the power requirements of the first signal.

14. A system as claimed in claim 12 or 13, characterised in that the power scaling means is adapted, in response to the scaling occurring coincidentally with a requirement to increase the power of the first signal, to effect a smaller increase in the scaling than the requirement.
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15. A system as claimed in claim 14, characterised by power control means in the first station for effecting a closed loop power control process with the second station and by means in the first station for generating commands instructing the second station to change power.
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16. A system as claimed in claim 15, characterised in that power control means in the first station is adapted to generate a command to increase power due at least in part to a change in parameters or in format of a data signal transmitted from the second station.

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17. A system as claimed in any one of claims 12 to 16, characterised in that the transceiving means are spread spectrum transceiving means.

18. A second station (MS) for use in a communication system comprising a first station and a second station, the second station including transceiving means (38) for communication with the first station, and power control means (34) for controlling the transmitted power level of a first signal (DPCH) to be transmitted to the first station, wherein the power control means is adapted, in response to determining that the second station wishes to transmit any one of a set of possible additional signals (ACK or NACK) simultaneously with the first signals, to scale the transmit power of the first signal by an amount which takes into account the greater (or greatest) power requirement of all of the set of the possible additional signals to be transmitted subsequently.

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19. A second station as claimed in claim 18, characterised by power scaling means (36) which is adapted, in response to the power control means determining that the combined power requirement of the first signal and the set of possible additional signals exceeding the predetermined maximum level, to scale the power requirements of the first signal.

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20. A second station as claimed in claim 19, characterised in that the power scaling means is adapted, in response to the scaling occurring coincidentally with a requirement to increase the power of the first signal, to effect a smaller increase in the scaling than the requirement.

21. A second station as claimed in claim 20, characterised in that power control means in the second station is responsive to commands generated by the first station for effecting a change in power.

5 22. A second station as claimed in any one of claims 18 or 21, characterised in that the transceiving means is a spread spectrum transceiving means.